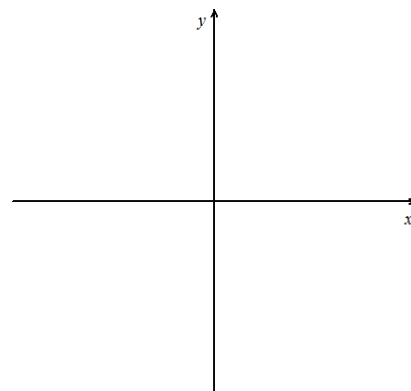
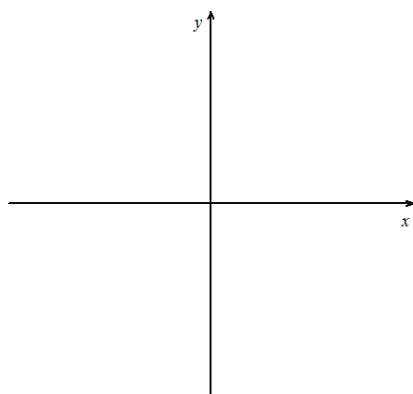


Curve Sketching and Function Analysis Homework Name _____

Analyze and sketch a graph of the function. Label any intercepts, relative extrema, asymptotes, and points of inflection.

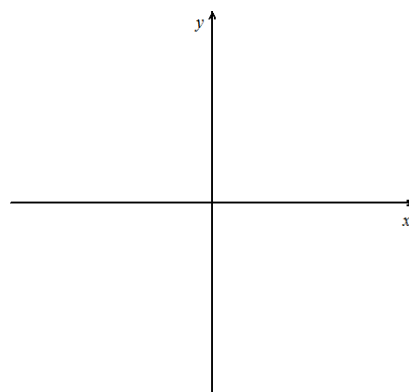
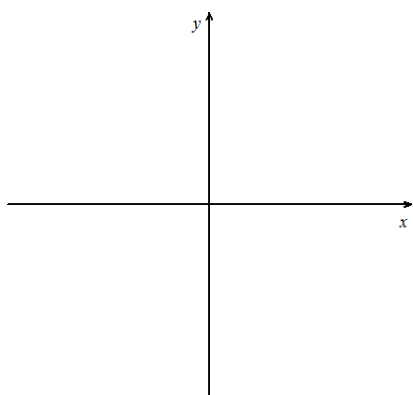
1. $y = x - 4\sqrt{x}$

2. $y = \frac{x-3}{x}$



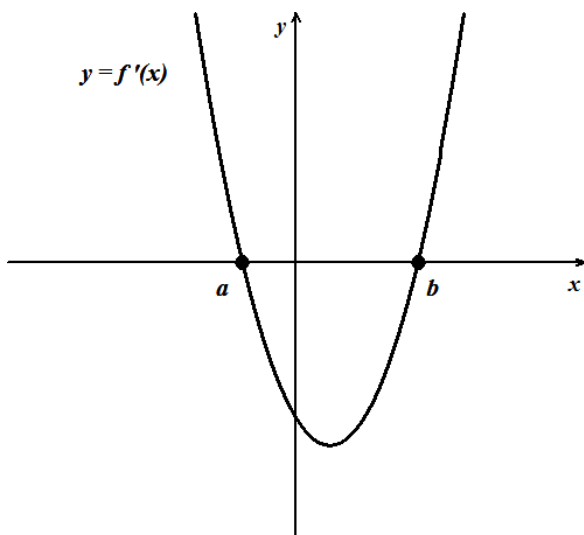
3. $y = 2 \cos x - x ; [0, 2\pi]$

4. $y = x - 2 \ln x$

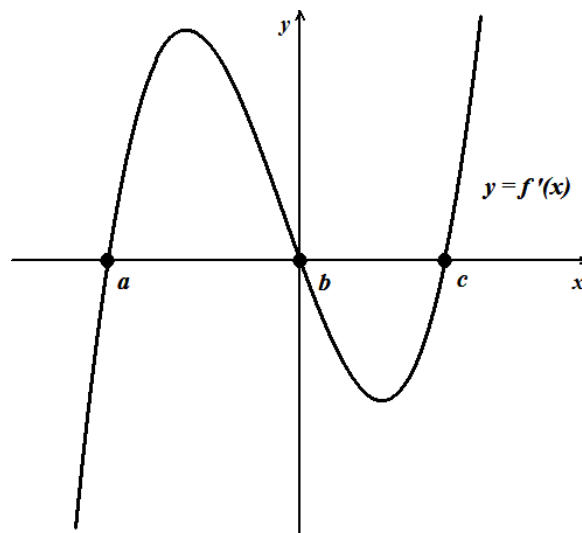


Use the graph of the f' to sketch the graph of f and the graph of f'' .

5.



6.



Sketch the graph of the function, f , given the following information.

7.

- continuous for all real numbers
- $f'(x) < 0$ on $(-\infty, -3)$ and $(0, 3)$
- $f'(x) > 0$ on $(-3, 0)$ and $(3, \infty)$
- $f''(x) > 0$ on $(-\infty, 0)$ and $(0, 6)$
- $f''(x) < 0$ on $(6, \infty)$
- $f'(0)$ does not exist

8.

- continuous for all real numbers
- $f'(2)$ does not exist
- $\lim_{x \rightarrow -\infty} f(x) = 2$
- $f'(x) > 0$ on $(-\infty, -1)$ and $(2, 5)$
- $f'(x) < 0$ on $(-1, 2)$ and $(5, \infty)$
- $f''(x) > 0$ on $(-\infty, -3)$
- $f''(x) < 0$ on $(-3, 2)$ and $(2, \infty)$

